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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/758,305

01/13/2004

Bruce M. Harper

M3214

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03/18/2008

WESTERN DIGITAL TECHNOLOGIES, INC.

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EXAMINER

WOLLSCHLAGER, JEFFREY MICHAEL

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

03/18/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/758,305	<b>Applicant(s)</b> HARPER ET AL.	
	<b>Examiner</b> Jeff Wollschlager	<b>Art Unit</b> 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 14-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 14, 2008 has been entered.

### ***Response to Amendment***

Applicant's amendment to the claims filed December 19, 2007 has been entered. Claims 1-13 and 25-33 have been canceled. Claim 14 is currently amended. Claims 14-24 are pending and under examination.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 14-16 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Tokisue et al. (US 5,077,888).

Regarding claim 14, Tokisue et al. teach a method of mounting discs on a spindle of a magnetic disc file (reasonably interpreted to be a nest) wherein the disc (1) having a central hole is positioned over the spindle (Figure 1 and Figure 4; col. 2, lines 10-30). Tokisue et al. further teach that the disc may be guided into close proximity of the spindle by blowing air

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through the edge of the central hole of the disc so that the disc may be fitted onto the spindle in a completely non-contact manner (col. 5, lines 28-32).

As to claims 15 and 16, Tokisue et al. position the disc through the use of vacuum and pressurized gas distributed around a manifold in order to cause the disc to float/be suspended (Figure 2; col. 4, lines 2-16 and 42-64).

As to claim 19, Tokisue et al. center the disc (col. 5, lines 1-14).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 17 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokisue et al. (US 5,077,888), as applied to claims 14-16 and 19 above, in view of Allen et al. (US 5,915,915).

As to claims 17 and 23, Tokisue et al. teach the method of claim 16 set forth above. Tokisue et al. do not expressly teach employing a second port to supply the plurality of

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holes/jets through the edge of the central hole (col. 5, lines 28-32). Tokisue et al. is silent as to whether the air for the central hole is from the same supply that is employed to position/carry the disc or whether it is from a different supply/port. However, Tokisue et al. do teach an embodiment where a different supply of air is employed when it is utilized for a purpose other than positioning/carrying the disc; namely, when used for contaminant control (Figure 7 and Figure 8; col. 6, lines 10-24). Further, Allen et al. analogously teach a method wherein different supplies/ports are provided for carrying/positioning the disc and blowing air through the hole of the disc (Abstract; Figure 10).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have modified the method of Tokisue et al. and to have employed the suggestion of a different embodiment of Tokisue et al. to utilize a different supply/port of air when supplying the air to the air holes/jets directed to the central hole of the disc than the supply/port employed to supply the air for positioning/carrying the disc for the purpose of effectively controlling the operations of the different steps. Further, it would have been *prima facie* obvious to have modified the method of Tokisue et al. and to have utilized a different port for supplying air to the central hole, as suggested by Allen et al., for the purpose of effectively controlling the operations of the different steps of Tokisue et al. (e.g. positioning/carrying the disc and guiding it onto the spindle).

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tokisue et al. (US 5,077,888), as applied to claims 14-16 and 19 above, in view of Goodwin et al. (US 5,080,549).

As to claim 18, Tokisue et al. teach the method set forth above. Tokisue et al. do not expressly state that the low and positive gas pressures produce a Bernoulli effect. However,

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Goodwin et al. teach a method of handling a wafer/disc wherein a Bernoulli effect is created (Abstract).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have modified the method of Tokisue et al. and to have produced a Bernoulli effect to carry the disc, as suggested by Goodwin et al., since Goodwin et al. suggest such a method is an equivalent alternative means known in the art for creating a low and positive gas pressure that is suitable for carrying a wafer/disc.

Claims 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokisue et al. (US 5,077,888), as applied to claims 14-16 and 19 above, in view of Davis (U.S. Patent Application Publication 2002/0025408) and Granneman et al. (WO 98/01890).

As to claims 20-22, Tokisue et al. teach the method of claim 14 as set forth above. Tokisue et al. do not teach maintaining the gas at an elevated temperature or utilizing the contactless carrying and guiding method to nano-imprint an embossable film above the disc substrate. However, Davis teaches a method of nano-imprinting an embossable film upon a disc, such as optical, magnetic and magneto-optic discs, by heating the disc prior to placing/positioning the disc in the mold/nest (Abstract; paragraphs [0004-0006; 0009-0010; and 0072-0079] and Grannemen et al. disclose a method and apparatus for contactless heating of a substrate by directing heated gas at the substrate to both heat the substrate and to support it within the apparatus (Abstract; Figures 1 and 2).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have modified the contactless carrying and guiding method of Tokisue et al. and to have maintained the gas at an elevated temperature and to have utilized the contactless carrying and guiding method of Tokisue et al. to facilitate a nano-imprinting

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process as suggested by Davis and Granneman et al. for the purpose of realizing Tokisue et al.'s benefit of reduced contamination and disc damage in various disc processing applications such as the nano-imprinting method set forth by Davis. Further, Granneman et al. suggest the advantages of contactless heating of a substrate with gas prior to processing (page 1, lines 16-36). It would have been obvious to have employed heated air, as suggested by Granneman et al., in the process of Tokisue et al. for the purpose of eliminating a separate heating step prior to additional processing.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tokisue et al. (US 5,077,888), as applied to claims 14-16 and 19 above, in view of Bailey et al. (U.S. Patent 6,696,220).

As to claim 24, Tokisue et al. teach the method of claim 19 above and further employ stop members (23) to limit movement of the disc (col. 4, lines 21-29), but do not expressly disclose controlling movement of the disc with a plurality of rods coupled to actuators. However, Bailey et al. disclose an analogous method of centering a substrate with a plurality of rods coupled to actuators (e.g. piezo actuators; Figure 51 (5103); Figure 38; col. 25, lines 17-37).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have employed the piezo actuators disclosed by Bailey et al. while practicing the method of Tokisue et al. for the purpose of providing fine adjustment and positioning of the disc in an art recognized suitable manner.

### ***Response to Arguments***

Applicant's arguments filed December 19, 2007 regarding the 35 U.S.C. 102 rejections over the Thomas and Tzur references have been considered, but are moot in view of the amendment to the claims. Applicant's arguments regarding the 35 U.S.C. 103 rejection over Davis in view of secondary references have been fully considered, and they are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Tokisue et al. and secondary references as set forth above.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Wollschlager whose telephone number is (571)272-8937. The examiner can normally be reached on Monday - Thursday 6:45 - 4:15, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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/J. W./

Examiner, Art Unit 1791

March 21, 2008

/Monica A Huson/

Primary Examiner, Art Unit 1791